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ABSTRACT

An online professional development course, Telecommunications and Information Access, offers educators the opportunity to earn graduate credit, learn about an emerging technological field, and interact using a telecommunication network. This independent study course offered by the University of Oregon and the International Society for Technology in Education is designed to introduce educators to current classroom and personal uses of computer mediated communication (CMC), databases, and distance learning. Offered entirely online, the course uses the information technologies being studied, including electronic mail, computer conferencing, remote database searching, and information about distance education by satellite. Students reported positive response to the course and the technology as an effective way to learn material otherwise unavailable to them. They were pleased with the immediate feedback for their lessons. However, they expressed concerns about costs, technical difficulties, and general lack of support for implementation for telecommunications in education. (9 references) (Author/BBM)

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Information Age Innovations:

A Case Study of Online Professional Development

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Information Age Innovations:

A Case Study of Online Professional Development

Lynne Schrum, University of Oregon

Abstract:

An online professional development course, *Telecommunications and Information Access*, offers educators the opportunity to earn graduate credit, learn about an emerging technological field, and interact using a telecommunication network. The course includes electronic mail, computer conferencing, remote database searching, and information about distance education by satellite . Students reported positive response to the course and the technology as an effective way to learn material otherwise unavailable to them. They were pleased with the immediate feedback for their lessons. They expressed concerns about costs, technical difficulties and general lack of support for implementation for telecommunications in education.

Introduction

The information age has arrived. We are reminded every day as we go throûgh the routine of our lives-- banking, watching new happen on our television, and ordering a hamburger. Politicians and policy-makers constantly remind educators of their duty to introduce students

to the tools of this new era. Unfortunately educators are seldom given the time to become comfortable, to experiment and to practice integrating these technologies into their lives and classrooms. This paper describes an innovative use of information age technology in the professional enhancement of inservice educators and explores the potential for modeling the use of technology as both the medium and the message.

Educators face continuing demands to become proficient with technology in many forms. New teachers are expected to leave the university with knowledge in this area, and practicing teachers are often required to use technology with which they are not familiar. Yet most new teachers, even those who have taken a course in educational technology during their preservice training, report they are not comfortable with the technologies (U. S. Congress, 1988).

Information technologies are now available to achieve two goals simultaneously. Telecommunications can provide educational opportunities not previously available to learners; for example, it is now possible to overcome distances, interact with model teachers and experts, and reduce turnaround time for collegial interactions. Examples of traditional courses offered online have recently been discussed in the literature (Harasim, 1989; Hiltz, 1986; Romiszowski & de Haas, 1989; Smith, 1989). In perhaps a more exciting occurrence, the technologies themselves provide an opportunity for educators, regardless of location, to become familiar with the new media within the context of personalized activities, so that the technology becomes

almost invisible within the learning environment. Thus one course provides theory, literature, and applications within the context of modeling the technology.

Description of the Course

The University of Oregon and the International Society for Technology in Education (ISTE) offer an independent study course, *Telecommunications and Information Access for Educators* . The course introduces educators to current classroom and personal uses of computer mediated communication (CMC), databases, and distance learning.

CMC, defined here as communication across distances using personal computers, modems, phone lines, and computer networks, has several unique characteristics. It provides instantaneous communication, access to previously unavailable communities, multiple participation in activities, and cultural sharing by opening a window to the complexities, cultures and peoples of our world. Two important features provide richness in the use of CMC: it is essentially a medium of written discourse with the spontaneity and flexibility of spoken conversation, and it is a powerful tool for group communication and cooperative learning (Kaye, 1989).

The course is offered entirely online using the information technologies described. This assists teachers in learning the technology

and in receiving feedback for assignments. The course was informed by adult learning theory and sensitivity to the myriad needs of busy professionals. Students are responsible for their own learning of this complex and emerging technology. They are required to design individually useful activities that demonstrate proficiency and understanding as they practice integrating telecommunications into their daily curricular activities.

Educators earn four graduate credits from the Oregon State System of Higher Education. The credit has been used for salary increments and has transferred to other universities as part of requirements for Master's and Ph.D. degrees. This course represents a departure from other online courses since it has been approved for graduate education credit and is available to individuals in almost any geographic location. Each student has one year to complete the six individual lessons and final project.

This course is electronically located on the GTE/Education Services Educational Network but some activities have also taken place on the INTERNET. Participants exchange electronic mail, interact using computer conferencing, follow scavenger clues and search remote databases online, while offline activities require reading and response to articles and books that represent current literature in the field. Students are encouraged to look critically at the field, identifying appropriate uses and current obstacles to its implementation. They must learn the technical skills of connecting hardware, learning software, uploading, downloading, and file transfer while they work

through the individual lessons. The course covers mail and conferencing, curricular integration and unit plans, distance learning, remote database searching, and special education applications of the technology. Each lesson contains online activities and offline reactions to the readings. A final project is designed by the student in consultation with the instructor.

Research Method and Questions

We are dealing with a newly emergent phenomenon; few examples of this type of course currently exist for professional development. The concept is new and "everyone involved is a pioneer. No two educational institutions have organized their programs the same way" (Roberts, 1991, p. 20). It is therefore important to look carefully at the situation as it evolves.

The case study is particularly suited to research in this situation as it allows us to document the evolution of online courses, gather relevant data from participants and also provide description of these contemporary events. As future inservice and preservice activities are developed, this description will inform planning, implementation and further evaluations.

Since any researcher filters her results through personal experiences, it is important to explicate my personal interests in this study and the lenses through which I view the world. My personal research and

teaching agendas have focused on CMC and distance learning for the past five years. I designed this course, created its materials, and have taught it during the initial year. I have been in contact with students on an almost daily basis both sharing successes and monitoring difficulties. Clearly I have ownership of this online course and a deep personal commitment to this type of professional development for educators.

Students taking this course interacted with their instructor regularly using electronic mail, telephone, fax, and traditional postal service. I archived correspondence, compiled field notes on telephone interactions, and stored electronic mail on disk. I solicited participant reflections during the data gathering phase; additionally, I conducted informal interviews.

The questions which guided this study include the following:

(1) What types of educators have taken this course and for what reasons?

(2) What is the nature of connectivity without face to face interaction with the instructor, with fellow students, or with support services?

(3) In what ways does increased and immediate access in the independent study course enhance student/teacher interaction and course completion beyond typical correspondence courses?

(4) Is the online professional development course a useful tool for learning this type of information? Does it increase comfort in the student's personal use of this technology?

Discussion

After a year and a half and over 40 enrollees, I have some general information with which to begin my reflections on this course. Some students enrolled but never began the course. These nonstarters represent almost one-third of the total number. Feedback from these nonstarters has been difficult to obtain, however, it is possible that the amount of work involved was simply overwhelming. One student, who already had completed a Ph.D. degree, commented, "There is more work to these ISTE [Independent Study] courses than to any graduate work I've done anywhere." Another student reported the technical complications were more than he had expected. Yet another discovered that family obligations interfered with beginning the course.

The remaining two-thirds of the students have either completed the course or are moving rapidly through the lessons. This represents a higher percentage of potential completions than typically found in most independent study courses, which range from 30 to 50 percent (Holmberg, 1988). The evaluations and interviews with those working on the course or those who have completed it have been generally positive, however, suggestions for improvement were made.

I will present information gathered during this initial year by discussing each research question and then offering some general implications from the results.

Research Questions

1. What types of educators have taken this course and for what reasons? During the first year of the course more than 30 educators from around the world enrolled in the course. They represented elementary, secondary, and university institutions, and came to the course with experiences as administrators, district level personnel, classroom teachers, and teacher educators. Their knowledge of telecommunications ranged from complete novice to a few with considerable telecommunication experience.

Their reasons for taking this course were as varied as their experiences. Many live in relatively isolated communities with no access to university courses. Others made comments such as "My university doesn't offer any course like this, and I want to know about telecommunications" or "I need to learn this type of thing on my own, in the privacy of my own home and I have no other resources." One stated, "I am hoping that I will learn more about telecommunications, the theory behind it, some of the research, and a lot of potential activities." One woman took the course out of curiosity and because "I was so happy that a woman is teaching this type of course!"

2. Does the lack of face to face interaction impact the connectivity with the instructor, fellow students, and support services? This question represents a significant issue because the drop-out rate for traditional correspondence courses is extremely high, often due to lack of consistent and immediate interaction (Schrum, 1991). Concern for

student satisfaction and support must be part of any independent study course, but CMC might prove to be a mediating influence in distance learning.

Most students stated the lack of face to face interaction was not a problem and a few identified advantages to this medium. As one said, "Thanks for putting up with my frankness! Maybe I can be more direct BECAUSE I can't see you?" Another responded, "I also just thought what a great system for the deaf, for whom regular phone calls are not an option. This system is so silent!" One student summarized her feelings after the course, "It's weird contacting people you never see or know in person; you develop images about what they look like, but it's neat not knowing AGES."

A few wished for an opportunity to communicate in a traditional face to face manner. I had the chance to meet six of the students at various conferences and meetings around the country. All expressed responses similar to this student's: "Now I can see a smiling, friendly face when I read the messages you send and it is easier to write back to you." Photographs of instructors of all ISTE Independent Study courses are now included in descriptive brochures.

One major problem exists in an independent study course and many of the students recognized and commented on it. Each student works at his/her own speed and timeline; some students completed the lessons out of sequence if that was more personally relevant. At any one time

only one or two students would actually be doing the same lesson and the chances of them having the same needs or interests was small.

To overcome the lack of interaction with peers, I established an electronic coffee corner for informal discussion. This helped a bit, but the conferencing system used on GTE's network, CAUCUS, is often confusing. More important, the students were highly motivated to keep their time online as brief as possible due to cost factors and so were reluctant to spend time "chatting." A few of the students did establish personal e-mail interactions regarding possible projects for young children as a result of the coffee corner, but this remains an area of concern. Lack of collegial interaction, supposedly one of the benefits of computer medicated communication, was mentioned repeatedly when discussing this course.

Technical and procedural difficulties have interfered with success in educational technology independent study courses in the past. To avoid this problem, ISTE provides additional support through its Independent Study office and students are able to have procedural issues answered quickly. Questions regarding grades, transcripts, and missing pages in packets are handled by one identified support person, which also speeds response time. In addition, GTE offers an 800 number for support or to report computer difficulties. Students often commented that the support systems were adequate, friendly and accessible.

(3) In what ways does increased and immediate access in the independent study course enhance student/teacher interaction beyond typical mail correspondence? Overall, students appreciate the immediate feedback available by electronic communications. Students made comments such as "I liked the rapid response and frequent interaction with the instructor. She was very understanding and encouraging." "Feedback came immediately via e-mail and always contained overall evaluation of assignment along with some comments on specific aspects of the assignment." "The instructor was very helpful if I became confused about the lessons. Her feedback was the reinforcement I needed to continue."

I consider these comments evidence that some of these students might have dropped the course if they could not get clarification, encouragement and feedback in a timely fashion. As one student put it, "Thanks for the conversation this morning. You have gotten me back on track! I feel much better."

My students had almost continuous daily access to me by e-mail, of course. To attempt to compensate for their inability to drop in during office hours, I provided my home and office telephone numbers. Students were encouraged to call if the situation required voice communication or if they could not wait for an e-mail response and over 50 percent did so. Several commented that the e-mail worked fine, but knowing they could reach me gave them the confidence to problem solve on their own.

A relationship between a teacher and a student is necessary in any educational setting and this is extremely important for online courses. The immediacy of response does not translate into immediately established trust and friendship. Although my students and I were in constant communication, each student moved at her/his own speed in establishing this relationship. It was helpful and important that the first lesson required introductions, humor and some acknowledgement that the educator was in the forefront of this emerging field.

(4) Is the online professional development course a useful tool for learning this type of information? Does it increase comfort in the student's personal use of this technology? Students reported the course was a positive and rewarding experience for them personally and professionally. One student said, "I feel that what I learn depends on the amount of effort I put into the course, not upon the format. The independent study format enabled me to take a course I would not have ordinarily been able to take." Another said, "I'll say in all honesty that it's taken some getting used to! The thrill of finding messages awaiting me when I log on has not yet worn off. " A third commented, "My district is very pleased that I am taking these units! Your course has served as a valuable resource for all of us."

Yet, many of the students identified problems for the profession as a whole. They reported they had few colleagues with whom they could discuss these telecommunication activities. One student reported, "Not many people I associate with are knowledgeable about

telecommunications, much less have the opportunity to implement it into their work environment." Another said, "I plan on encouraging other faculty to become familiar with telecommunications."

Further, while these students had forged through difficulties with the hardware, software and networks, the overwhelming conclusion was that other teachers might not be able or willing to accomplish the tasks. One teacher educator said, "It's not totally user-friendly or dependable, and it has its costs. I'm not sure it will gain wide spread use among teachers until those negatives can be minimized." Another commented, "My response at this point is that telecommunications has a great deal of potential in a number of ways but it must become much easier if it is to be useful to most teachers."

Implications

Overall responses to the course have been extremely positive. Those who have finished the course reported satisfaction with the information and skills they acquired; more important, they are pleased with their ability to complete the course. Each person was encouraged to develop her/his own personal style to complete the requirements. These varied extensively and several students commented on this flexibility as a major strength of the course.

According to the participants, other positive aspects of the course include creative scheduling, ability to rapidly turn in assignments and

receive feedback, and the freedom to negotiate projects which were personally significant. The reading and support materials were current and relevant.

Some aspects of the course did not work well. The lack of cohesiveness and group interaction, as mentioned, was a drawback. Frustration with technical difficulties also resulted in occasional discouragement, as many people had trouble uploading lessons, and the manual provided by GTE was not as clear as desired by the students.

Another difficulty was the cost involved. Costs for credit and materials were quite reasonable for a graduate course, but the additional telecommunications charges were considered high by many students. Each student received a free account on the network, but the connect charges, especially from rural areas, mounted rapidly for those learning a new activity and system.

Students from countries other than the United States and Canada have had even more difficulty in their connections. Teachers in Japan, Taiwan, Africa and New Zealand have attempted to take the course and have had to postpone or cancel due to enormous charges for packet switching data from outside the U.S. Others have completed the course, but only by using the INTERNET which required reconceptualization of some of the lessons and assignments.

Recommendations and Conclusion

Data provided by students in the *Telecommunications and Information Access* online course have given new insights into the needs and goals of educators who took this innovative professional development course. From their words and suggestions, and my own experiences, I have three recommendations for future expansions in this area.

First, educators are to be encouraged to explore emerging technologies in ways that are relevant and meaningful to their lives and professional responsibilities. Those willing to try new methods of professional development are to be applauded, of course, but must also be rewarded with time to learn and experiment, and with appropriate financial reimbursements.

Second, further development of appropriate and innovative courses is necessary. This study provides a few insights from a limited number of participants, but more information is clearly needed. It would be helpful to have follow-up activities with these educators and possibly to assist them in training others or in implementing their new skills. Equally important is the expansion of experiences our preservice teachers have with technologies. An internship in a technology rich classroom would be a significant step in this direction.

Third, the educational community would benefit from further research regarding the nature of educational activities conducted entirely

online. Is this a short-lived phenomenon? In what ways do educators who learn in this manner implement the technology into their professional work? What is the nature of communication and interaction online and in what ways is it similar or different from other communications? What other professional development activities might be offered using this technology?

We are only beginning to find ways to facilitate integration of new technologies into the classroom for the improvement of teaching and learning. We have frequently not put into practice what we know about good education and innovation when attempting to bring about change. Use of technology in teacher education and professional development activities may provide the time necessary for educators to gain confidence, identify appropriate uses, and experiment with specific techniques for their own classrooms. This study is one step in understanding the process of change and the requirements for implementation.

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